



# Focus Sheet

## Safe Storage of 100 Area Reactors (105-DR and 105-F)

U.S. Department of Energy • U.S. Environmental Protection Agency • Washington State Department of Ecology

### REQUEST FOR PUBLIC COMMENT

The U.S. Environmental Protection Agency (EPA), the Washington State Department of Ecology, (Ecology), and the U.S. Department of Energy (DOE) (the Tri-Parties), invite you to comment on the *Engineering Evaluation/Cost Analysis for the 105-DR and 105-F Reactor Facilities and the Ancillary Facilities*, DOE/RL-98-23, Revision 0. The engineering evaluation/cost analysis (EE/CA) evaluates alternatives for final disposition of the 105-DR and 105-F Reactor Facilities (excluding the reactor blocks) and four ancillary facilities located in the 100-D and 100-F Areas along the Columbia River on the Hanford Site (see map). **Public comments will be accepted on the proposal from May 18 - June 18.**

*If you would like to review the proposal, please visit the information repository nearest you, or to request a copy of the document, call the Hanford toll-free number at 1-800-321-2008. All public comments will be considered and responded to before a final decision is made.*

**To request copies of the document, or to submit comments, either written or electronically, please contact:**

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**Or call the Hanford Cleanup Toll-free Line at 1-800-321-2008.**

known as the Hanford Reach. The 100-D Area includes the 105-DR Reactor Building and the four ancillary facilities (116-D and 116-DR Exhaust Air Stacks, 117-DR Exhaust Filter Building, and 119-DR Exhaust Air Sample Building) that were in operation from 1950 to 1964. The 116-DR and 117-DR facilities are located within a treatment, storage, and disposal unit, which is regulated under the *Resource Conservation and Recovery Act* (RCRA). The 105-F Reactor Building, located in the 100-F Area, operated from 1950 to 1964. These facilities became contaminated with chemical and radiological hazardous substances during reactor operations. These facilities have been deactivated, but not fully decontaminated, and as the buildings deteriorate it becomes more difficult to prevent site workers from being exposed to contaminants, and increases the potential threat of a release of contamination that could endanger the public or the environment. The Tri-Parties have determined that a removal action is necessary to ensure protection of Site workers, the public, and the environment.

### BACKGROUND

The 100-D and 100-F Areas are located at the northern end of the Hanford Site in southeastern Washington along a section of the Columbia River

In 1993, a final environmental impact statement (EIS) was issued under the (National Environmental Policy Act) (NEPA) that evaluated decommissioning

eight of the nine surplus reactors at the Hanford Site. Subsequently, the EIS Record of Decision documented the DOE's selection of the preferred decommissioning alternative, safe storage of the reactors followed by deferred one-piece removal of the reactor block. This EE/CA supports the EIS decision by providing an evaluation of safe storage alternatives for the 105-DR and 105-F Reactors. Additionally, the interim safe storage of Hanford's 105-C Reactor Building was initiated, consistent with the EIS. Some of the descriptions, waste volume estimates, and cost estimates used in this EE/CA are based on actual experience at the 105-C Reactor facility.

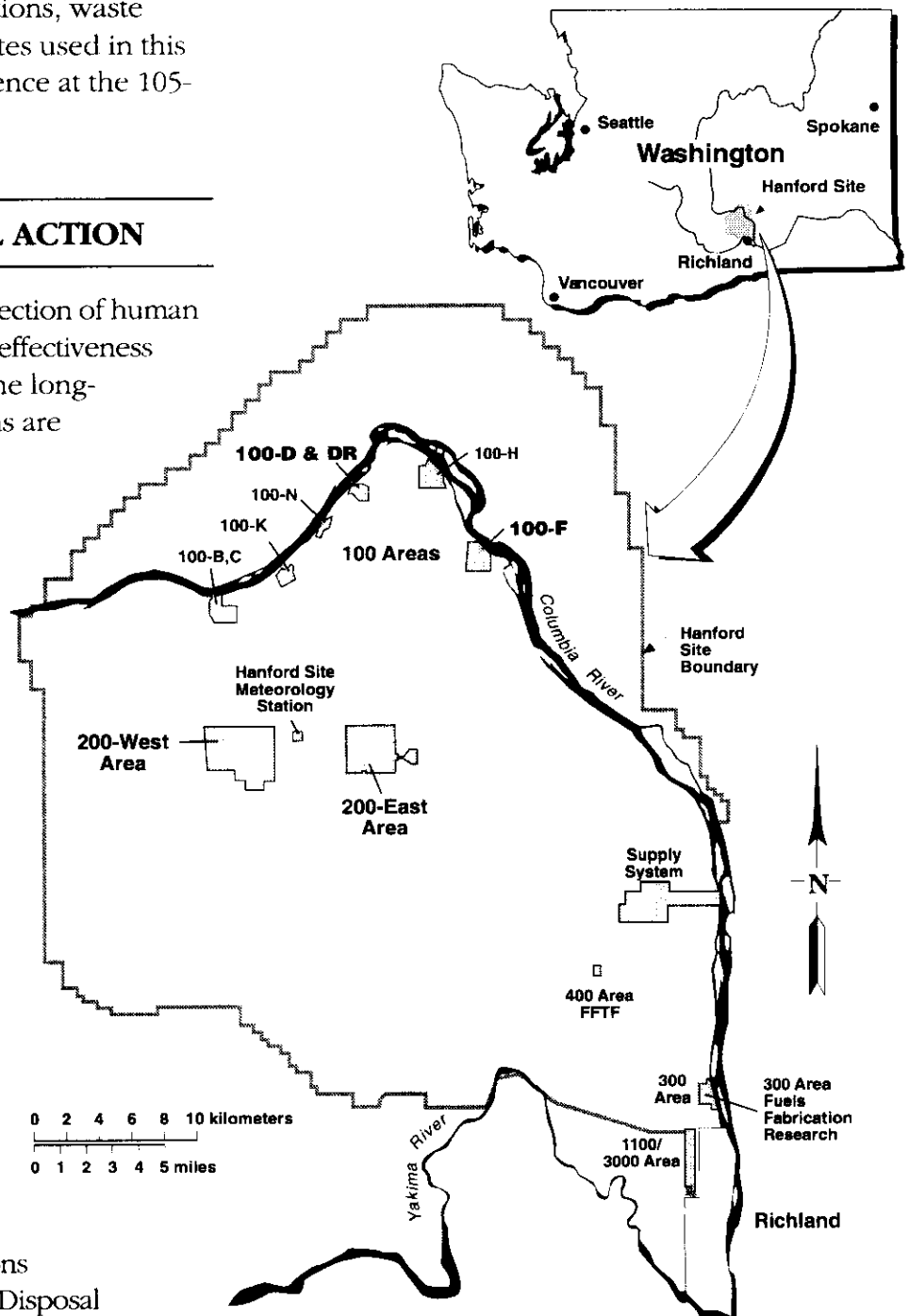
Facility (ERDF), in accordance with the waste acceptance criteria. If the waste meets cleanup standards or authorized release limits, leave the material in place.

The total estimated cost of these removal actions is approximately \$42 million.

## PREFERRED REMOVAL ACTION

Based on the ability to provide protection of human health and the environment, and its effectiveness in maintaining that protection in the long-term, the preferred removal actions are as follows:

- ▲ Decontaminate and demolish the four ancillary facilities.
- ▲ Decontaminate and demolish the 105-DR and 105-F Reactor buildings up to the shield walls that surround the reactor blocks.
- ▲ Construct safe storage enclosures over the remaining reactor blocks.
- ▲ Close the RCRA TSD unit through verification sampling and subsequent Class 1 modification of the Hanford Site-Wide RCRA Permit.
- ▲ Dispose of contaminated waste generated from these actions at the Environmental Restoration Disposal



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## **OTHER REMOVAL ACTIONS CONSIDERED**

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Two other removal action alternatives were evaluated in this EE/CA, which are summarized below. Because of the inability of these alternatives to ensure protection of human health and the environment, and cost considerations, they were not considered as desirable as the preferred alternative described above.

### **No Action:**

With the no action alternative, Hanford Site controls would be maintained to help prevent personnel or worker entry to contaminated facilities. No other specific controls would be established for facilities covered by this EE/CA. Because the contaminated facilities would not be cleaned out, and no action would be taken to stop the facilities from deteriorating, there is a likelihood that a release would eventually occur, potentially exposing site workers, the public and the environment to chemical and/or radiological contamination.

### **Long-Term Surveillance and Maintenance**

The goal of the long-term surveillance and

maintenance alternative would be to sustain the facilities in a safe condition for approximately 75 years until final disposition, which would consist of decontamination and demolition. To the extent possible, surveillance and maintenance would be performed to minimize the potential for an environmental release and protect the workers while maintaining compliance with standards in state and federal regulations and DOE orders. However, the contamination would remain in place. As the facilities continue to age and deteriorate, requirements necessary to maintain safe conditions would increase, and as costs increase, long-term surveillance and maintenance becomes less viable. Also, it may not be cost-effective to prolong the surveillance and maintenance period for the full 75 years (estimated cost for a 75-year period is \$24 million). At the end of the 75 years, the facilities would need to be decontaminated and demolished. This additional cost is estimated at approximately \$36 million, for a total alternative cost of more than \$64 million (not including inflation). These estimates do not account for costs that would be incurred for cleanup activities if contamination from the facilities was released to the environment. ■

## **Hanford Public Information Repository Locations:**

### **PORTLAND**

Portland State University  
Branford Price Millar Library  
Science and Engineering Floor  
Tri-Party Information Repository  
934 SW Harrison and Park  
(503) 725-3690  
Attn: Michael Bowman

### **SEATTLE**

University of Washington  
Suzzallo Library  
Government Publications Room  
(206) 543-4664  
Attn: Eleanor Chase

### **RICHLAND**

U.S. Department of Energy  
Public Reading Room  
Washington State University, Tri-Cities  
Consolidated Information  
Center, Room 101L  
2770 University Drive  
(509) 372-7443  
Attn: Terri Traub

### **SPOKANE**

Gonzaga University  
Tri-Party Information Repository  
Foley Center  
E 502 Boone  
(509) 324-5932  
Attn: Tim Fuhrman

**Hanford Cleanup Toll-free Line: 1-800-321-2008**

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